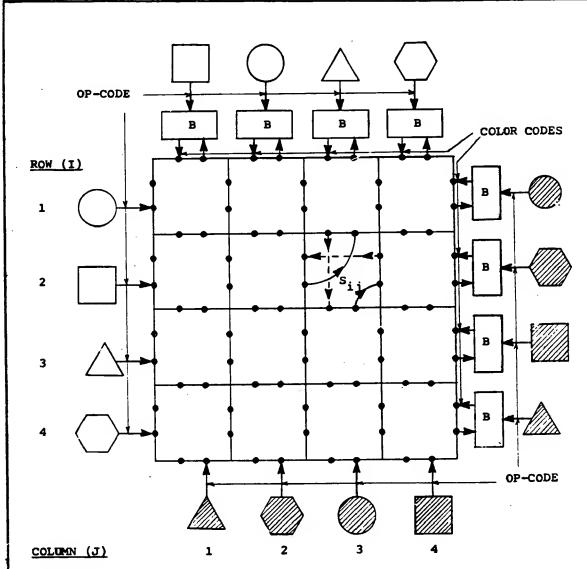


1 754465 330 24

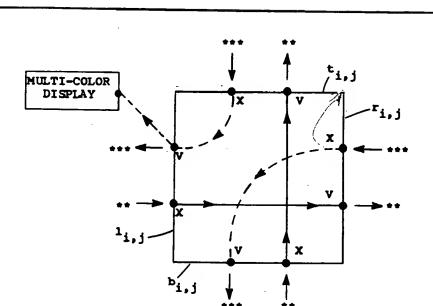


## B: BOOLEAN FUNCTION

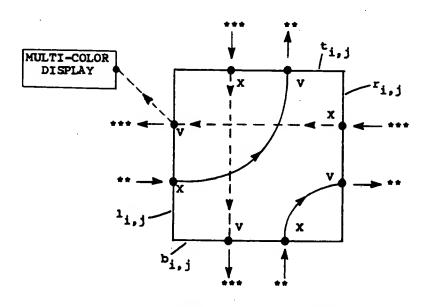
OBJECT	Ó	$\bigcirc$		$\triangle$				
OP-CODE	000	001	010	011	100	101	110	111

GEOMETRIC LAYOUT OF RAINBOWX FOR N = 4

FIG. 1



SWITCH Wi,j: ON ("1")

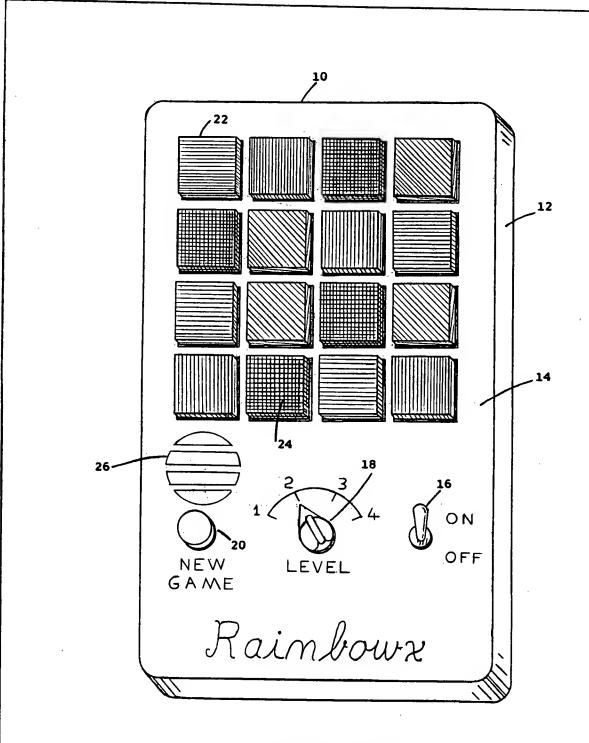


SWITCH W<sub>i,j</sub>: OFF ("0")

LEGEND: \*\* OP-CODE \*\*\* COLOR CODE

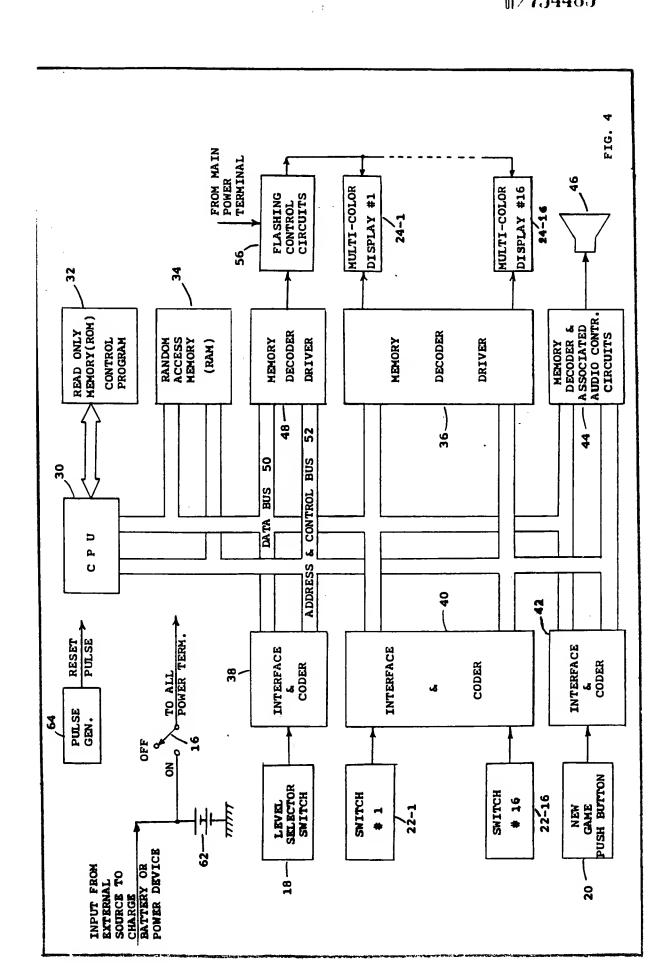
ROUTING SQUARE Si,j

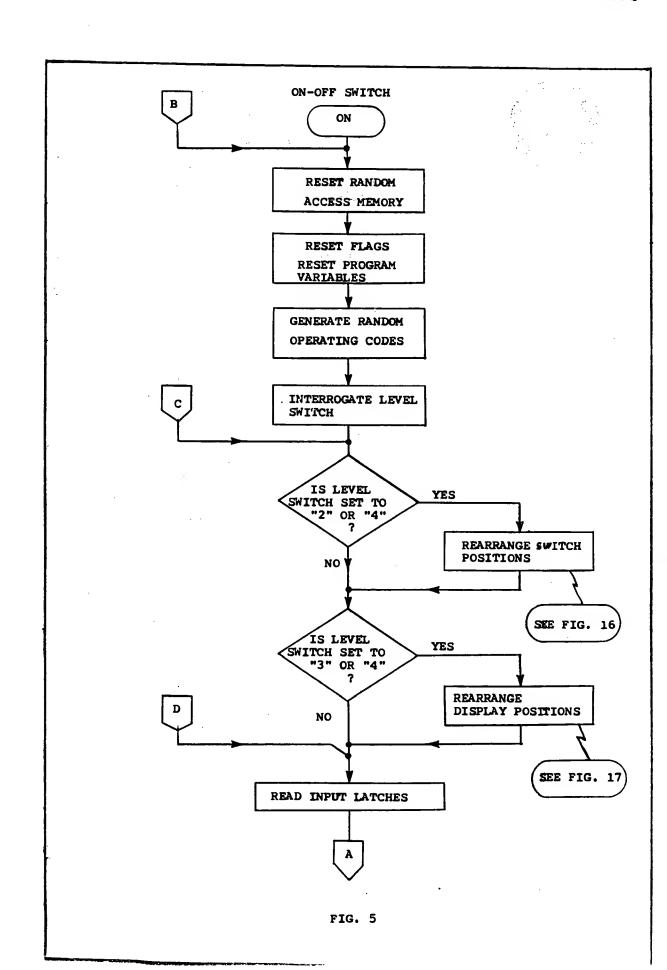
FIG. 2

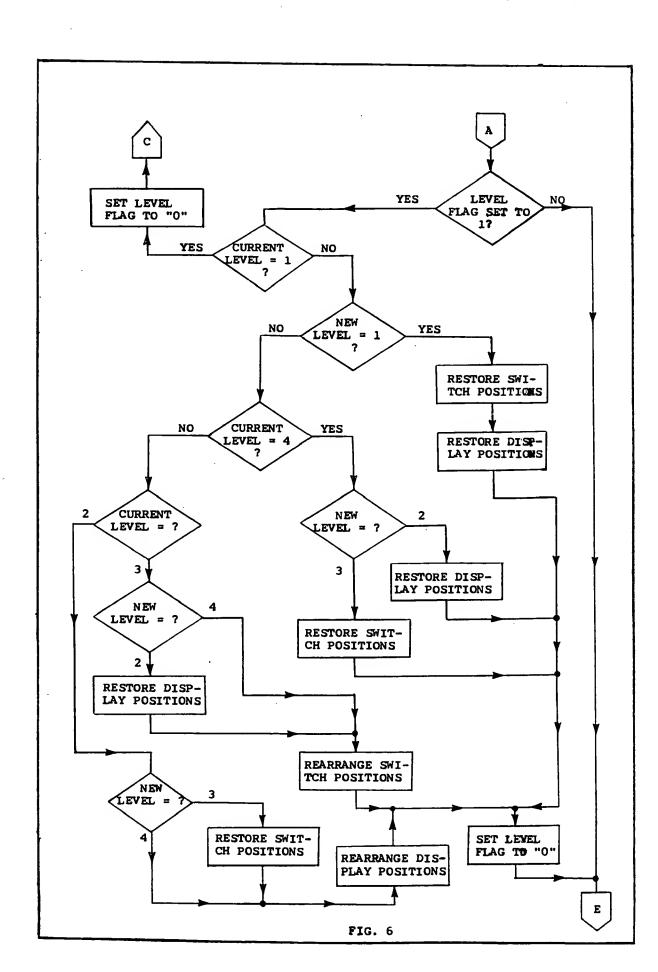


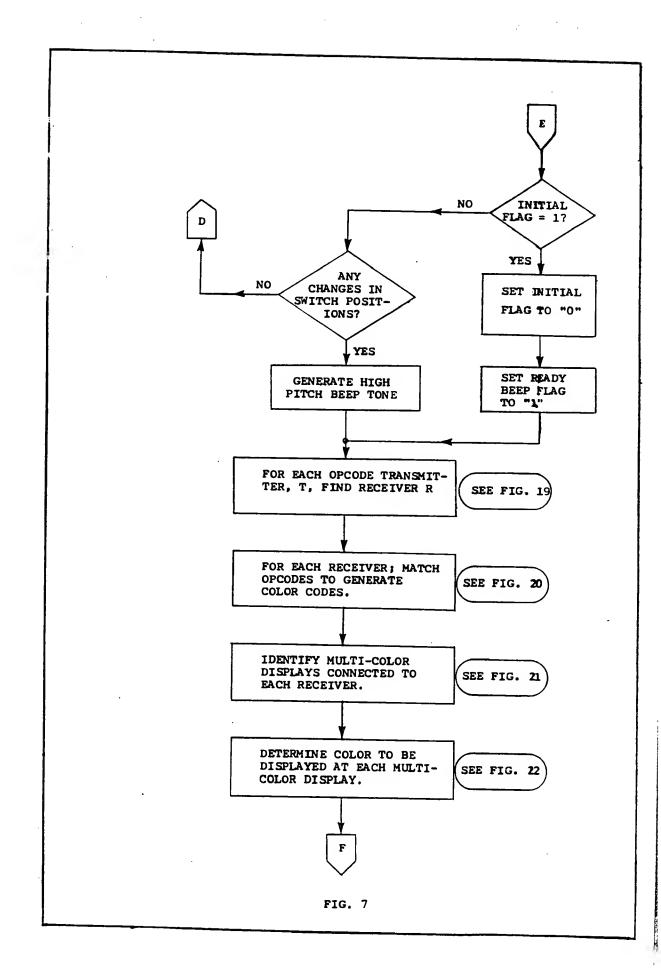
RAINBOWX GAME DEVICE

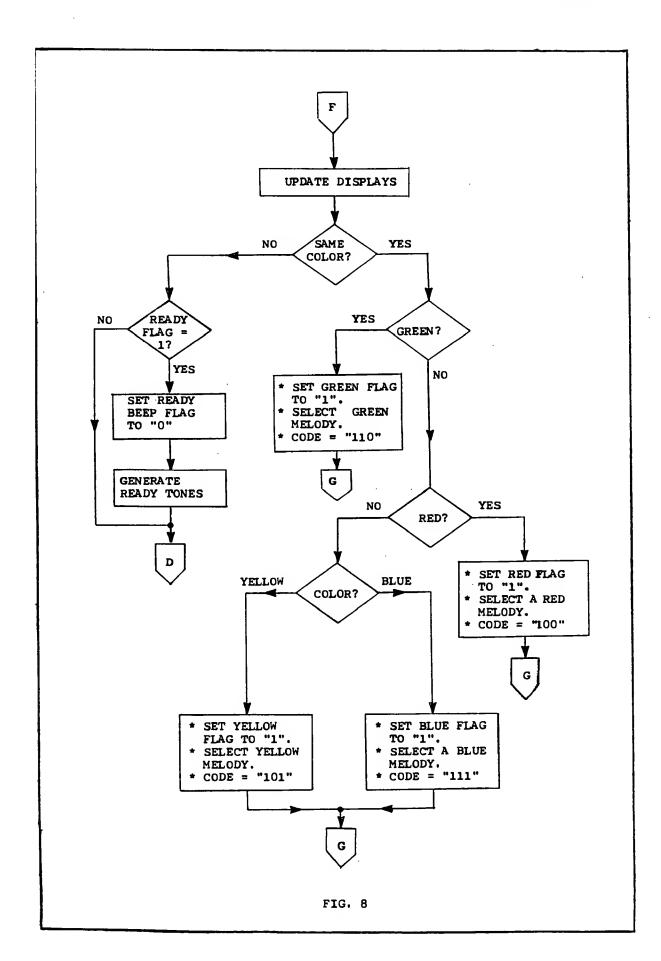
FIG. 3

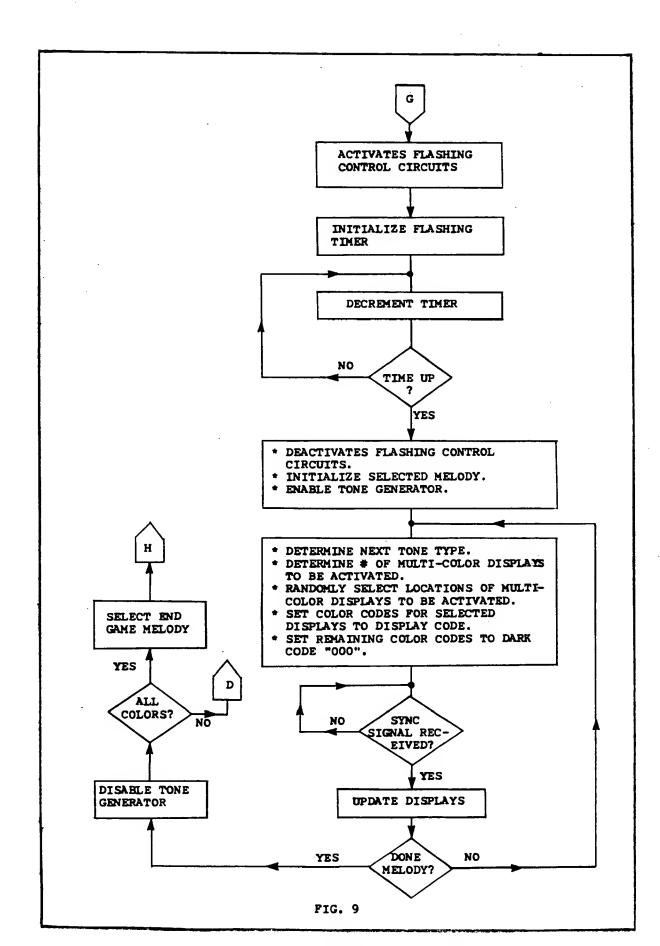


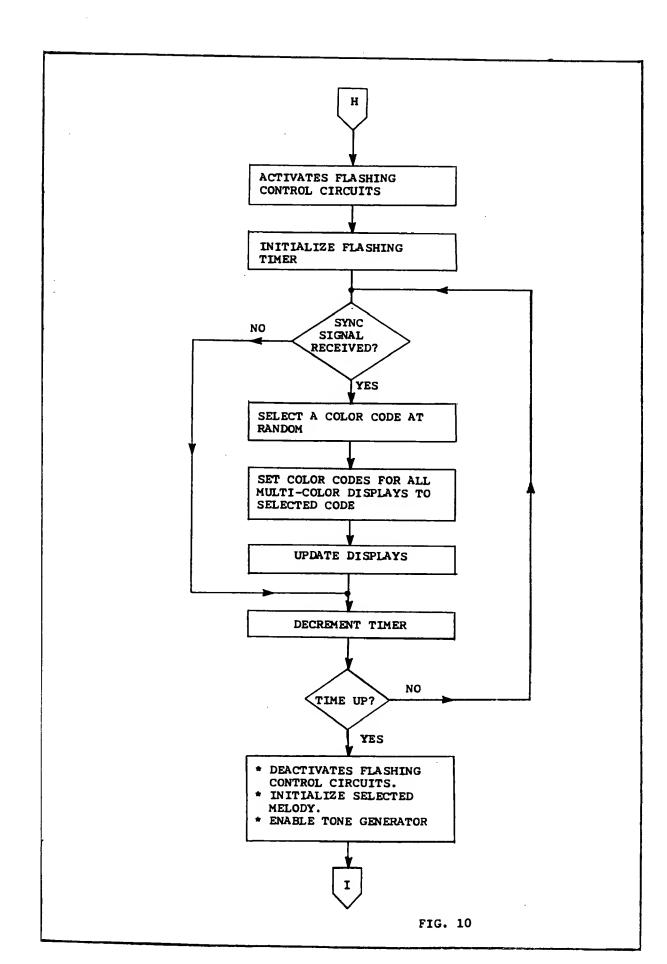


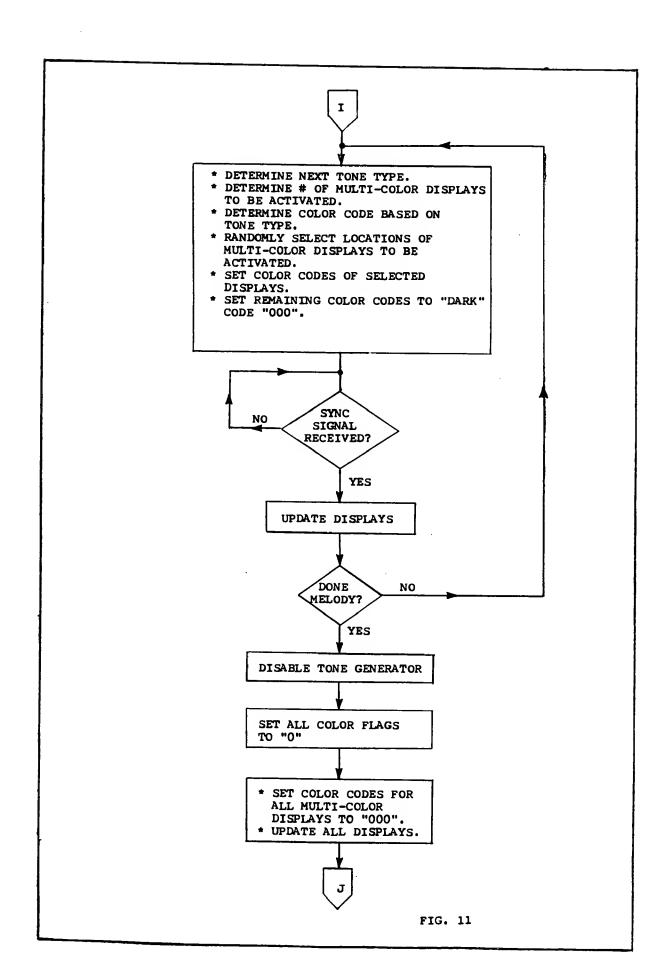


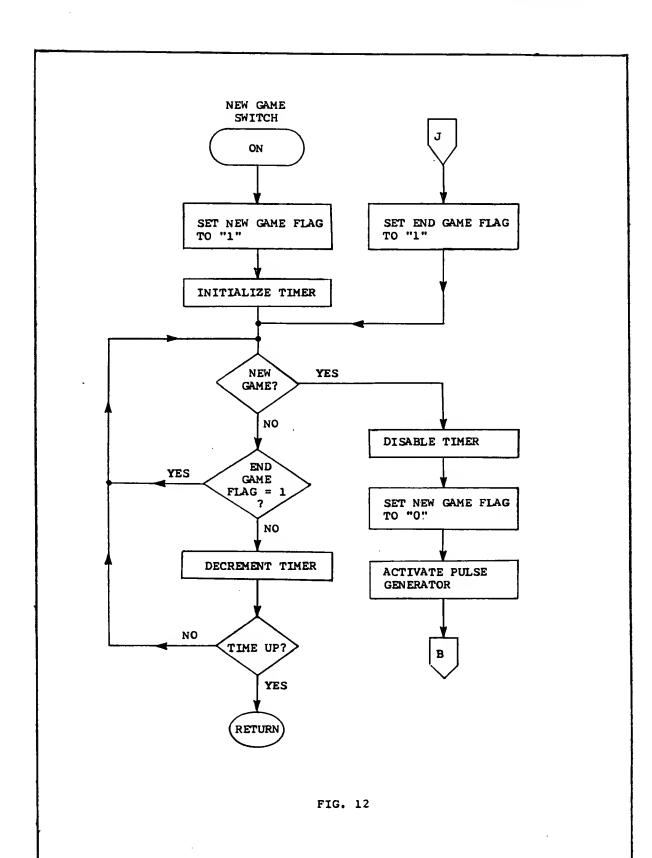












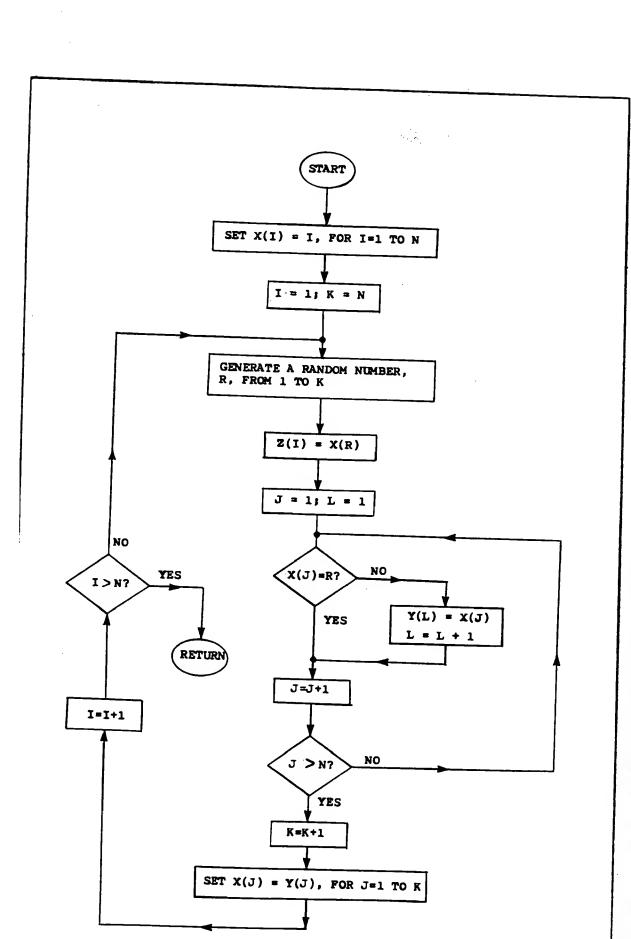


FIG. 13

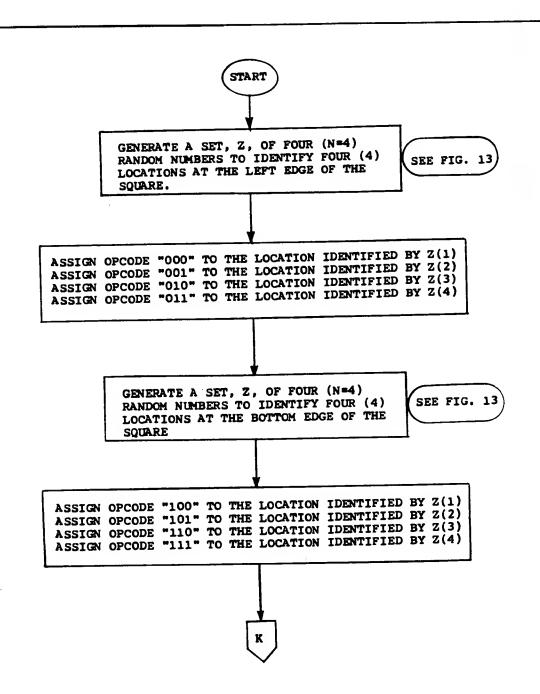


FIG. 14

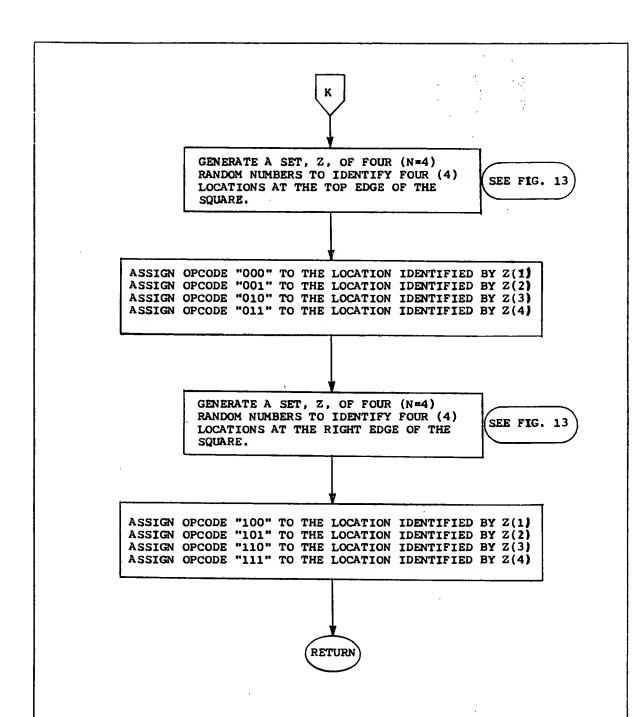
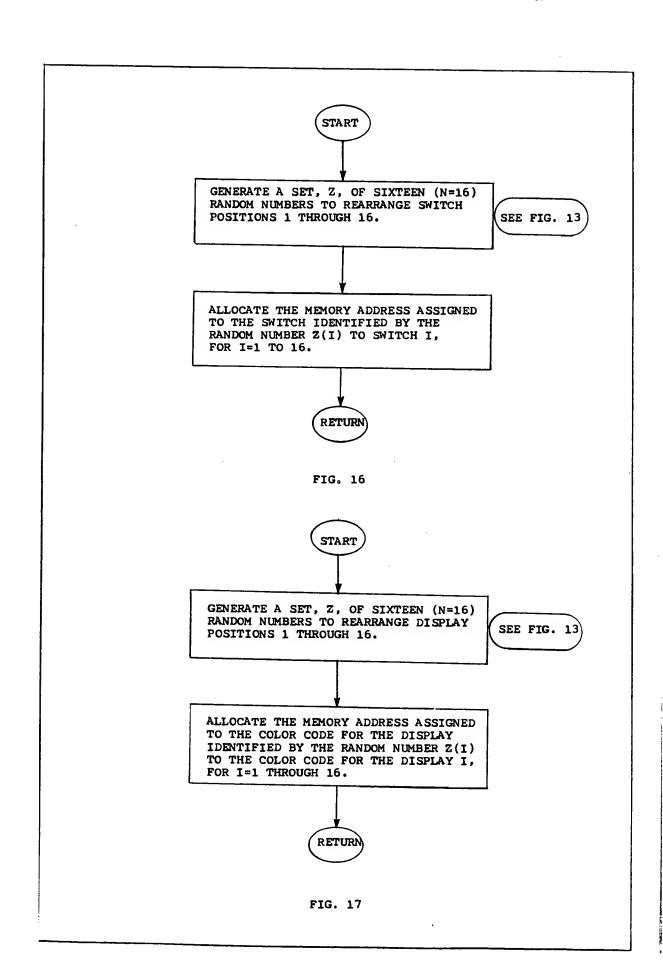


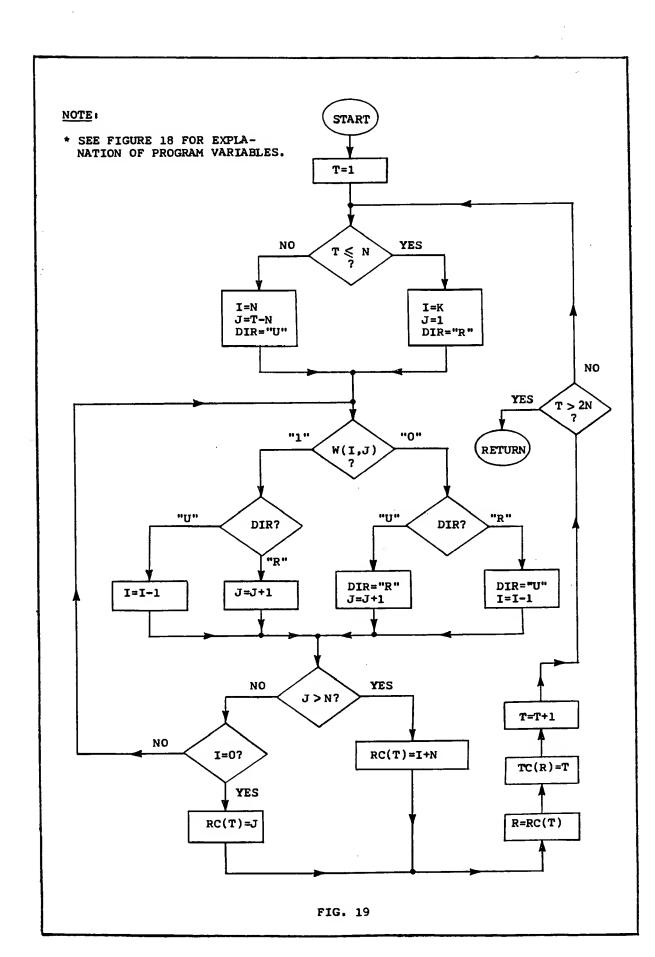
FIG. 15

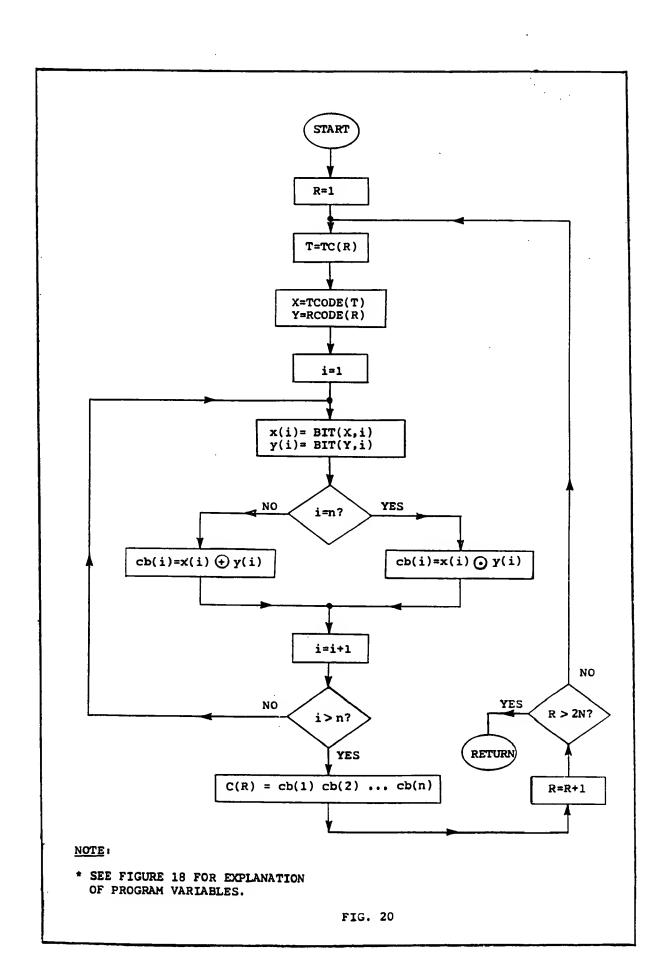


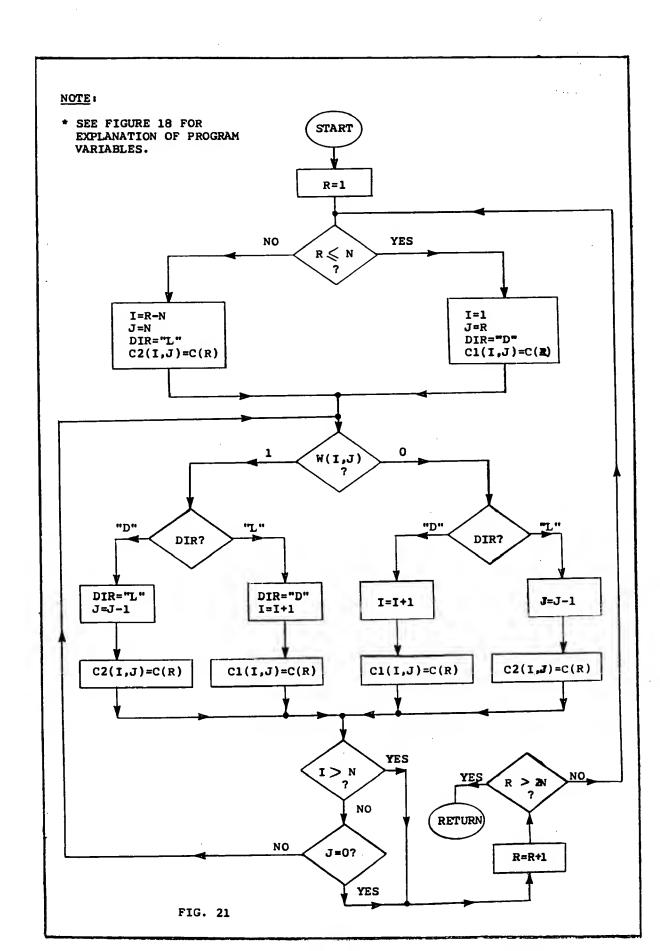
## LEGEND

- N : DIMENSION OF RAINBOWX, i.e. NUMBER OF PREDETERMINED COLORS WHICH MAY BE DISPLAYED.
  - = 4 (FOR THE PREFERED EMBODIMENT)
- n : NUMBER OF BINARY BITS IN OPCODE AND COLOR CODE.
  - = ln N + 1 = 3 (FOR THE PREFERED EMBODIMENT)
- I : ROW NUMBER I, I = 1, ..., N
- J : COLUMN NUMBER J, J = 1, ..., N
- DIR : ROUTE DIRECTION BETWEEN TWO ADJACENT ROUTING SQUARES;
  - "R" DENOTES RIGHT
  - "U" DENOTES UP
  - "L" DENOTES LEFT
  - "D" DENOTES DOWN
- T : OPCODE TRANSMITTER; T = 1, ..., 2N
- R : OPCODE RECEIVER; R = 1, ..., 2N
- RC(T) : RECEIVER CONNECTED TO TRANSMITTER "T"
- TC(R) : TRANSMITTER CONNECTED TO RECEIVER "R"
- W(I,J) : STATUS OF SWITCH LOCATED AT ROW "I" AND COLUMN "J"
- TCODE(T): OPCODE AT TRANSMITTER "T"
- RCODE(R): OPCODE AT RECEIVER "R"
- C(R) : COLOR CODE AT RECEIVER "R"
- x(i) : THE ith BIT OF OPCODE "X"
- y(i) : THE ith BIT OF OPCODE "Y"
- cb(i) : THE ith BIT OF COLOR CODE "C"
- C1(I,J): COLOR CODE AT THE RIGHT EDGE OF THE ROUTING SQUARE LOCATED AT ROW "I" AND COLUMN "J"
- C2(I,J): COLOR CODE AT THE TOP EDGE OF THE ROUTING SQUARE LOCATED AT ROW "I" AND COLUMN "J"
- C(I,J) : COLOR CODE SELECTED FOR DISPLAY AT THE ROUTING SQUARE LOCATED AT ROW "I" AND COLUMN "J"
  - (+) : EXCLUSIVE OR BOOLEAN FUNCTION
  - inclusive or boolean function

EXPLANATION OF PROGRAM VARIABLES OF FIGS. 19 - 22







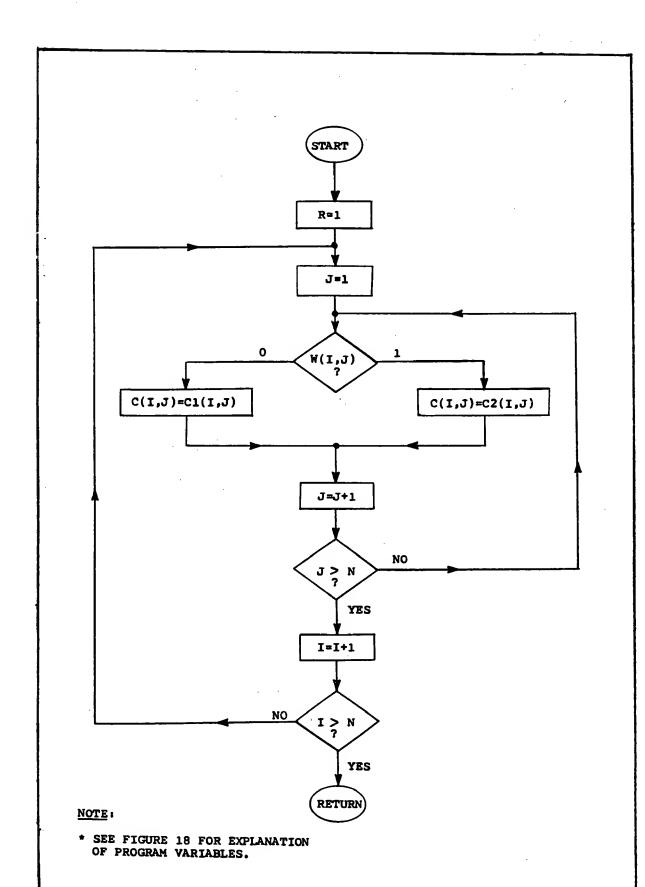


FIG. 22